

Contact Investigation Finding the Source and More

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Contact Investigation

- ▶ Approx 10 contacts for each case of Infectious TB in the US
- ▶ 20-30% of contacts will have Latent TB Infection
- ▶ 1% will have TB

Identifying the Contacts



Index Case is Reported

- ▶ ER Doctor calls Health Department to report a TB suspect - young white male non foreign born
 - TB skin test placed
 - Sputum collected
- ▶ TB Suspect was given control measures and sent home with directions to call the Pulmonologist for follow-up.

Happy New Year!

Investigation Begins

- ▶ Hospital record review
- ▶ Obtain copies of x ray and labs
- ▶ Meeting with the case- home visit- first impressions
- ▶ Epidemiological history-what's the story
- ▶ Initial visit-a lot of details to cover
- ▶ Determine infectious period
- ▶ Identifying Contacts



Index Case

- ▶ Young adult male, white, non foreign born
- ▶ Chest x ray report
 - 3.8 cm rounded density medial RUL
- ▶ Sputum Smear
 - Negative x3
 - PCR TB: MTB Complex DNA not detected
 - Culture positive MTB Complex @ day 25
- ▶ PPD 20 mm
- ▶ Symptoms
 - Denies productive cough, fever, night sweats, appetite loss or weight loss
 - New onset chest discomfort
 - "Thought it was my gall bladder"

Contact Investigation Outcome

- ▶ Initial contact list: 2 adult contacts
 - 2 Current household contacts PPD Negative 0 mm
- ▶ Additional 3 adult contacts identified
 - 3 Former household contacts PPD Positive – 14, 20, 20 mm
- ▶ 2 high risk contacts tested (children <5 yrs)
 - 1 positive TST (17 mm)
 - 1 negative TST (0mm)

Things aren't always the way you expect

Looking for a Source

- ▶ Look in the opposite direction
- ▶ Look for source of infection for a child <2
- ▶ Parents and guardians are "informants"
- ▶ Focus attention to look for ill "associates"
- ▶ Begin with close associates - household contacts, etc.

Symptomatic Contact

- ▶ Hearing a “name”
- ▶ Confirming with the Index Case
- ▶ Reaching out
- ▶ Meeting at the door
- ▶ The x-ray and evaluation
- ▶ Another contact investigation!

Source Case

- ▶ Young adult male, white, non foreign born
- ▶ Chest x ray report –
 - LUL infiltrates
 - bilateral peri hilar infiltrates
 - LLL infiltrates
 - pneumonia but suspicious for active TB
- ▶ Sputum Smear
 - 2+ positive
 - PCR TB: MTB Complex DNA detected on smear
 - Culture positive MTB Complex @ day 14
- ▶ PPD 3 mm
- ▶ Symptoms
 - productive cough x 9 months
 - chest discomfort (“feels like something is in there”)
 - shortness of breath x 4 years
 - decreased appetite x 9 months

Initial Source Case Investigation

- ▶ Initial contact list: 54
 - ▶ 35 PPD Positive
- ▶ Ages 6mo to < 5 years
 - ▶ 5 PPD Positive
- ▶ Ages 5 to 18 years
 - ▶ 9 PPD Positive

It may not be over yet

Time to expand the CI?

- ▶ Unexpected high rate of TB disease infection in high-priority contacts
- ▶ TB disease in low priority contacts
- ▶ Infection of contacts <5 years
- ▶ Contacts with change in skin test status from negative to positive
- ▶ Review results from initial investigation
- ▶ Call Julie and Dr. Stout!
- ▶ Seek assistance

The Expanded Investigation

- ▶ Workplace
 - First Team
- ▶ Class – classroom
 - Repeated exposures, small area
 - Sent letter to attendees
- ▶ “Tavern” private club
 - Site visit
 - Meeting
 - Screening the members

Results of Source Case Investigation

Initial CI	Positive	Percent
54	35	64%

Expanded CI	Positive	Percent
78	3	3%

Treating the contacts

- ▶ Started 9 months of treatment-29 contacts
 - 11 children DOPT school & community
 - 6 school age
 - 5 toddlers/preschool
 - 18 in TB Clinic
- ▶ Completed treatment-27
- ▶ Incomplete treatment- 2 (adults)



Lessons Learned

Challenges	Successes
Contagious case	Site visits
Complex social life	Face to face interviews
Age	Partnership
Environment	Team
Volume	Tools

Partnering with your contacts

- ▶ Listen to your contacts
- ▶ Educate them about TB
- ▶ Ask for help identifying high risk and symptomatic contacts



Resources

- ▶ North Carolina TB Control Manual
- ▶ CDC, Guidelines for the Investigation of Contacts of Persons with Infectious Tuberculosis
Recommendations from the National Tuberculosis Controllers Association and CDC, MMWR 2005; 54(no. RR-15)
- ▶ Southeastern National Tuberculosis Center,
TB Program Management Course May 12-14, 2009